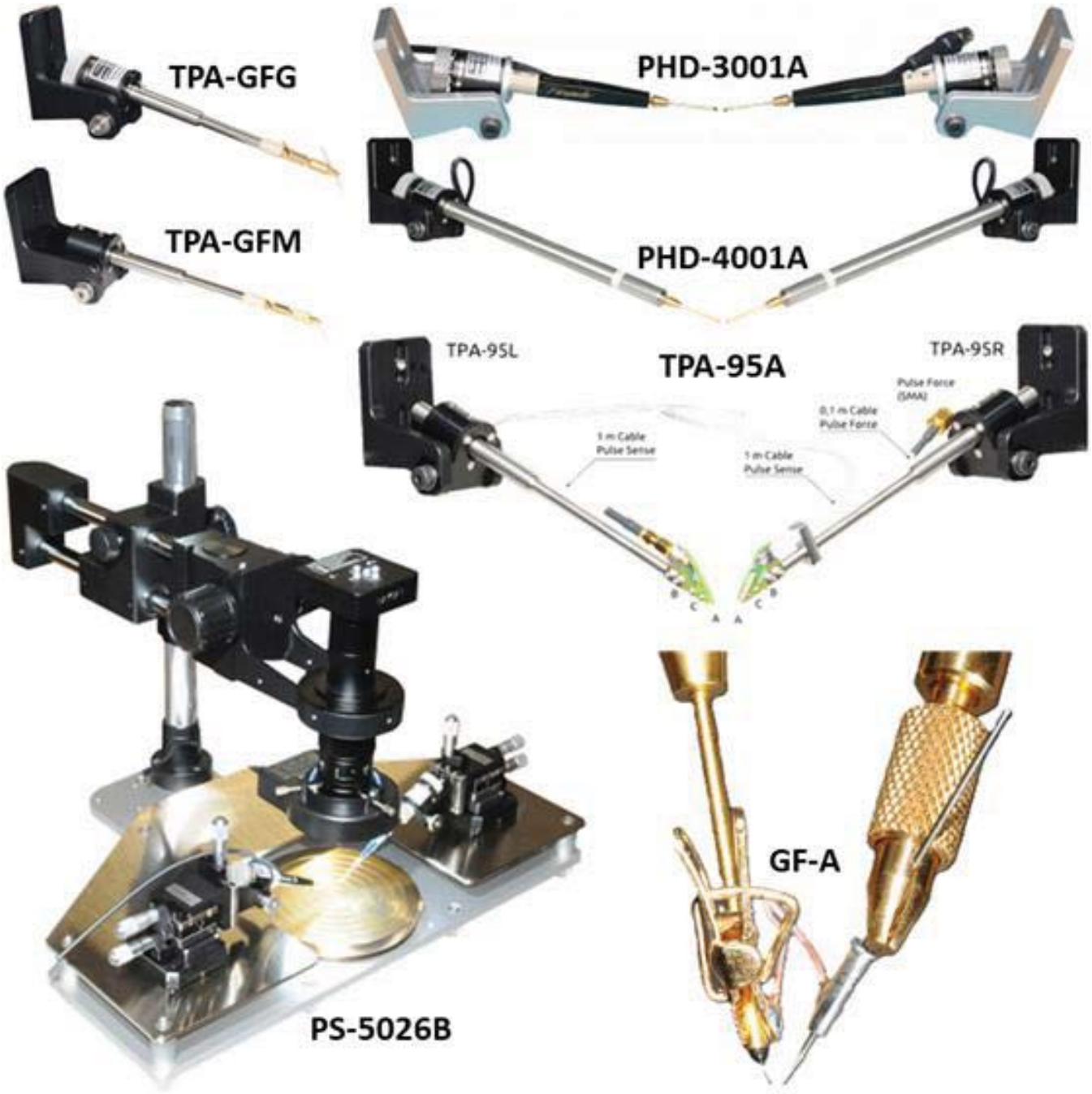
CALTRON PTE LTD

TLP/VF-TLP/HMM/HBM PROBING SOLUTIONS

TPA-GFG



Flexible Probearm TPA-GFG

Advanced TLP/HMM/HBM Solutions

1 Features

- Electrically isolated probearm for GND needle contact or general purpose DC, twin-wire HBM, HMM or flexible pitch VF-TLP/TLP/HMM/HBM force/sense probing
- **Flexible rotation** of the probearm by precision gear 80:1
- Suitable to mount the GF-A (optional) ground fixture needle for flexible pitch measurements. In addition a cable (e.g. for HBM) can be directly connected to the contact pin.
- High mechanical stability

2 Description

The flexible probe arm TPA-GFG is recommended to be used for GND needle contact or general purpose DC, twin-wire HBM, HMM or flexible pitch VF-TLP/TLP/HMM/HBM force/sense probing.

Fig. 2.1 shows the dimensions of the probearm in [mm]. A tungsten needle is fixed by knurled nut in the probe head which is electrically isolated from the shaft and the flange metal. The shaft can be rotated precisely in-line the axis using a high precision gear (80:1) and knurling wheel. This helps to align the probe tip and needle of the setup fast and efficient with out any manual fixation. The flange footprint is compatible with typical micropositioner interfaces. The length L of the shaft or flange footprint can be adapted on request. A bracket optimized for smaller micropositioners, such as Quater XYZ 500 TIM/MIM used on the HPPI PS-5026B portable wafer probe station, are available on request.

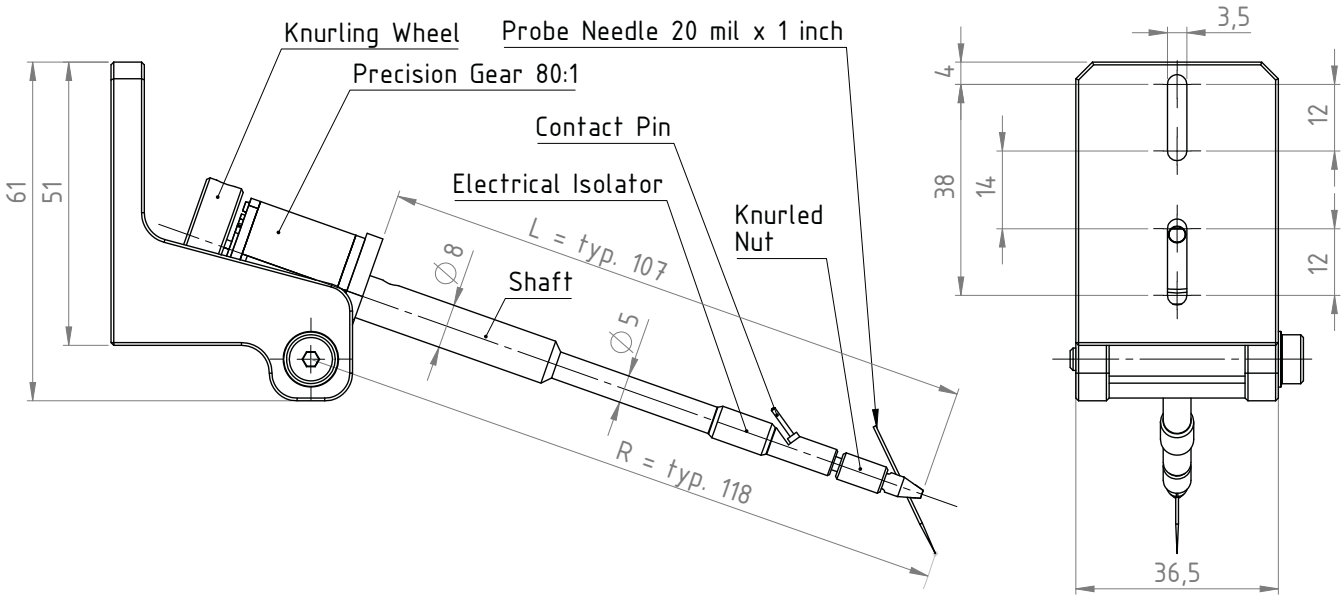
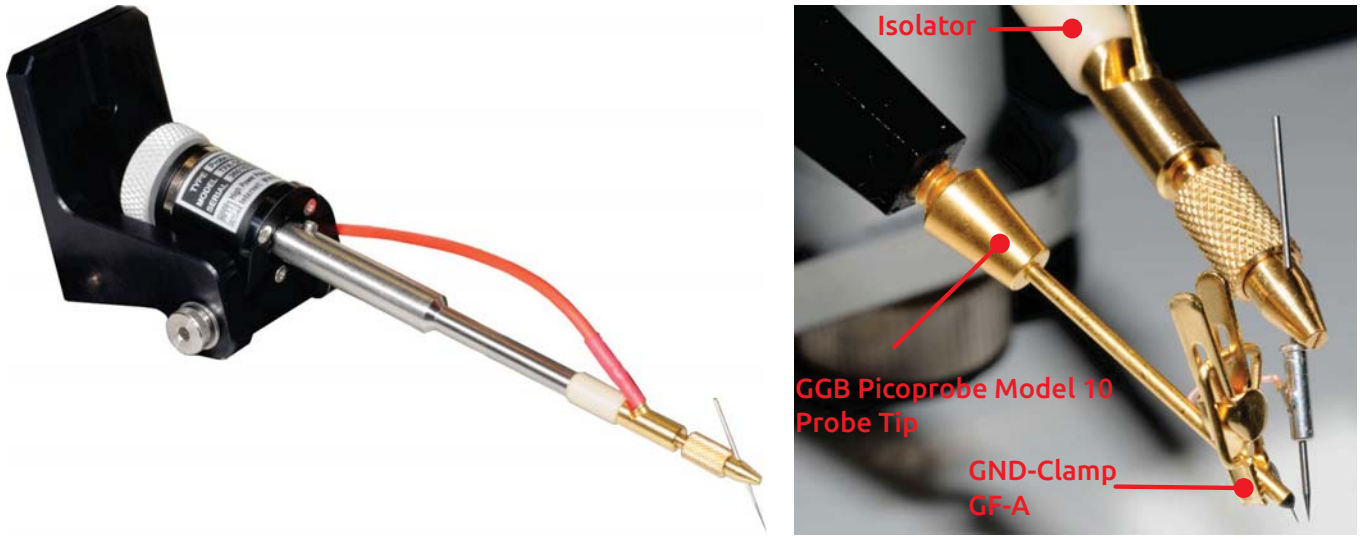


Figure 2.1: TPA-GFG physical dimensions in [mm]

High Power Pulse Instruments GmbH
Internet: https://www.hppi.de/
E-mail: info@hppi.de

Fig. 2.2 shows two different methods how to use the TPA-GFG. In Fig. 2(a) a single wire is connected to the contact pin of the probe tip. This setup can be used for HMM or HBM pulse or GND probing as well as general purpose DC probing.

Fig. 2(b) shows the combination of the TPA-GFG with the GF-A (optional) flexible pitch GND clamp designed for GGB Picoprobe model 10 probe tips. This combination ensures lowest possible GND inductance for fast rise time at flexible pitch probing.



(a) TPA-GFG with separate cable connected to the contact pin

(b) TPA-GFG with GF-A (optional) flexible pitch setup

Figure 2.2: Two methods how to use the TPA-GFG

2.1 Probehead Needle Assembly Procedure

Special attention is required for mounting the needle in the probe head (Fig. 2.3):

1. Use only needle with Ø 0.508 mm (Ø 20 mil)! – thicker diameter will damage the clamp
2. Feed-in the needle from bottom (back) side
3. Gently fasten the knurled nut

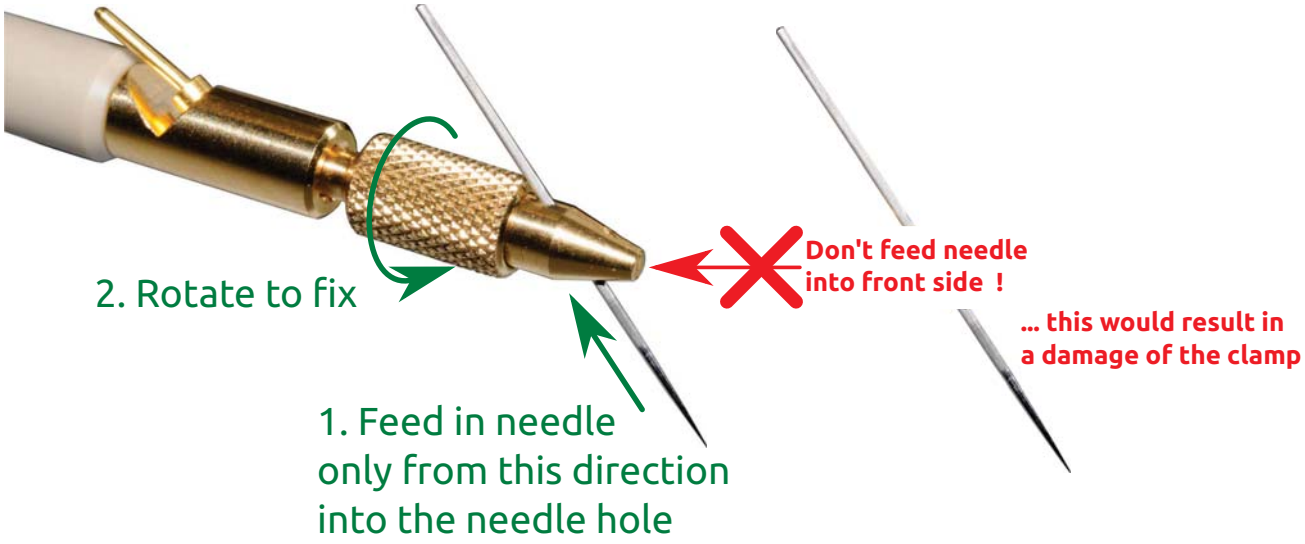


Figure 2.3: Probehead needle assembly. Use only needle with Ø 0.508 mm (Ø 20 mil)!

2.2 Contact Cable/Pin Assembly Procedure

Special attention is required for connecting a cable to the contact pin (Fig. 2.4) in order to avoid breakage of the pin at the probe arm:

1. Do not bend the contact pin
2. Feed the contact nozzle of the cable straight and gently on the pin in it's direction

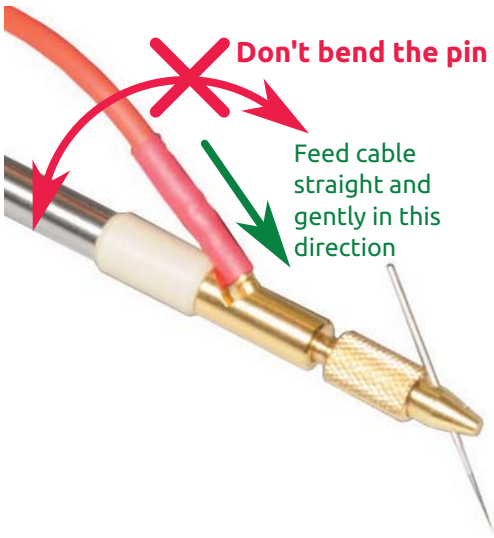


Figure 2.4: Attention: Do not bend the contact pin. Feed the contact nozzle of the cable straight and gently on the pin in it's direction.

2.3 Replacement Probe Needles

Needle diameter: **Ø 0.508 mm (20 mil)**

Recommendation for probe needle replacement: Quater, 0.508 mm (20 mil), part no.: H-20242 or from American Probe Technologies Inc., probe model # 72TC-D3/75 x 1 ", tungsten carbide probes with 1 " length, 15° taper and 7.5 µm tip radius.

3 Ordering Information

Pos. 02 – 06 are optional. A bracket with smaller size for QUATER micropositioner XYZ 500 TIM on the HPPI probe station PS-5026B is available on request.

Pos.	Description	Part No.
01	Flexible probearm set including: • Flange, high precision gear 80:1, shaft, insulator, needle clamp (Fig. 2.1) • Cable for contact pin as shown in Fig. 2(a) • 1 pcs. probe needle 0.508 mm (20 mil) diameter and 25.4 mm (1000 mil) length • Case for transportation and storage (Fig. 3.1)	TPA-GFG
02	Flexible Pitch GND Fixture Clamps GF-A (5 mm wire length)	GF-A / 5 mm
03	Flexible Pitch GND Fixture Clamps GF-A (10 mm wire length)	GF-A / 10 mm
04	Flexible Pitch GND Fixture Clamps GF-A (15 mm wire length)	GF-A / 15 mm
05	45 mm shaft extension	TPA-GFG-SE45
06	81 mm shaft extension	TPA-GFG-SE81

Figure 3.1: Case for transportation and storage

General

The product data contained in this data-sheet is exclusively intended for technically trained staff. You and your technical departments will have to evaluate the suitability of the product for the intended application and the completeness of the product data with respect to such application. Our products are solely intended to be commercially used internally and should not be sold to consumers. This data-sheet is describing the specifications of our products for which a warranty is being granted by HPPI GmbH. Any such warranty is granted exclusively pursuant the terms and conditions of the respective supply agreement. There will be no guarantee of any kind for the product and its specifications. For further information on technology, specific applications of our product, delivery terms, conditions and prices please contact HPPI:

High Power Pulse Instruments GmbH
Stadlerstrasse 6A
D-85540 Haar, Germany
Phone : +49 (0)89 8780698 - 440
Fax : +49 (0)89 8780698 - 444
E-Mail : info@hppi.de

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